

CHARACTERISTICS OF STUDENTS IDENTIFIED
AS INACCURATE PERCEIVERS

By

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The purpose of this study was to investigate the characteristics of students identified as "accurate" and "inaccurate" perceivers. Students were classified as accurate and inaccurate perceivers based on their ratings of the teacher and the classroom climate. It was hypothesized that students low in self-esteem would be more inaccurate in their perceptions of the teacher. Briefly the results of the study indicated that the relationship between the pupils' ratings of the teacher and the observation of an independent observer was sufficient to establish the mean ratings of the pupils as a measure of accuracy. The results of the study did not show significant personality differences between groups of students identified as "accurate perceivers" and "inaccurate perceivers." The direction of the findings ($p = .10$) from one of the subscales was consistent with previous studies.

That is, students defined as more "inaccurate perceivers" tended to describe themselves as less happy persons, less content with the way they are, and less cheerful in their outlook on life.

Two significant non-linear relationships were also found. Although these non-linear relationships did not account for a significant amount of the total variation, they did provide support for the general thesis that students low in self-esteem tend to have perceptions which differ from the majority of students in the classroom. For instance, students who were highly anxious tended to have accuracy scores which differ substantially from students who were low in anxiety.

The conclusions of this study were: (a) the means of the items on the Teacher Rating Scale can serve as an adequate criterion of the concept of accuracy; (b) students whose ratings of the teacher and classroom differ from most other pupils tend to be less happy and more anxious; and (c) a child's hostility, as measured in this study, did not have a significant bearing on the ratings they give the teacher.

CHAPTER I

INTRODUCTION

In the last twenty years, considerable emphasis has been placed on student ratings as a criterion of teacher effectiveness. Individuals who stress the value of ratings note their potential as a feedback mechanism to instructors and as an indicator of changing student attitudes. Individuals opposed to ratings question the competence of students to judge teaching ability, emphasizing that students who lack experience have difficulty in reporting valid judgments.

Research on student ratings of teachers has stimulated theoretical questions about the perceptions of students and the degree to which ratings are influenced by personality variables (McKeachie, 1957; McKeachie and Solomon, 1958; Paraskevopoulous, 1968; Costin and Grush, 1973). Rezler (1965) suggests one of the continuing methodological problems is identifying the characteristics of students whose perceptions of the classroom are not congruent with those of fellow classmates. Vingoe and Antonoff (1968) and Taft (1955) note that past literature emphasizes the qualities of accurate

perceivers rather than characteristics of poor perceivers.

The purpose of the present study was to investigate some of the personality characteristics of students whose ratings of the teacher differed markedly from other pupils. ✓ This group of students was hypothesized to be high in hostility, low in self-esteem, and more negative in their perception of the classroom environment. A second related purpose of this research was to establish a criterion by which the accuracy of pupil perceptions could be determined.

The Theoretical Basis

Do students whose ratings of the teacher differ markedly from other students have feelings of low self-esteem? Statements in psychological literature assert the influence of a person's values, attitudes, and perceptions. Theories of Freud (1949), Schachtel (1959) and Sullivan (1947) provide support for the relationship between an individual's actions and behaviors, and his perceptions. Bruner and Postman (1948) give experimental evidence of the influence of needs upon perception and cognition. The relationship between perceptions and self-esteem has not been firmly established.

The general conception of the relationship of self-esteem and perception comes from the phenomenological theory

of Fielder (1967) and the interpersonal theory of Heider (1958). Fielder hypothesizes that people low in self-esteem define themselves as unworthy, unwanted, and unacceptable. This self definition causes them to be less accepting, less capable of integrating threatening perceptions, and thus more likely to distort perceptions of themselves. Heider (1958), in contrast, thinks of the relationship of self-esteem and perceptions through the central notion of consistency. As elaborated by Backman and Secord (1965), a state of self-consistency is said to exist ". . .when [one's own and others'] behaviors imply definitions of self-congruence with relevant aspects of the self-concept" (p. 11). They further note that whenever a state of inconsistency or incongruency exists, ". . .the individual may change his conceptions of himself or misperceive his own actions or those of another" (p. 12).

The Problem of Accuracy

Attempts to measure the degree of perceptual accuracy caused by lack of self-esteem have not been totally successful. The concept ascribed to the process by which one accurately perceives an event is known as empathy (Bender and Hastorf, 1953; Dymond, 1948), as social perception, or

as simple discrepancy or accuracy scores (Mueller and Rothney, 1960).

Gage and Cronbach (1955) discuss the advantages and disadvantages of measuring perceptions through the use of rating scales and other techniques. Essentially the measurement issues relate to the perceiver, the person perceived and the technique used to determine the similarity of the scores on instruments to which each person responds. In Gage and Cronbach's review, previous studies use different methods for measuring the accuracy of perceptions. The usual paradigm employs either peer ratings, i.e., pooled judgments made by students, or a comparison between the subject's prediction of how another subject responds to an inventory and how the person actually fills it out.

The Present Study

In the present study a select group of children were identified through the use of accuracy scores, i.e., scores which denote the similarity between each pupil's ratings and the mean ratings for the classroom. The group of children whose accuracy scores were low were hypothesized to have personality characteristics which differ from the children who had high accuracy scores. Perceptual theory

suggests this group of children would be low in self-esteem, more hostile, and would perceive their environment more negatively. Within the framework the following hypotheses were suggested:

Hypothesis 1. There will be no significant difference in the self-esteem scores of children (grades six through eight) identified as "accurate perceivers" and children identified as "inaccurate perceivers."

Hypothesis 2. There will be no significant differences in the hostility scores of children (grades four and five) identified as "accurate perceivers" and "inaccurate perceivers."

Another method of determining the relationship between children's self-esteem and their perceptions of the teacher was to mathematically regress each child's self-esteem scores on their accuracy score. This method of analysis tested the following hypotheses:

Hypothesis 3. There will be no significant relationship between students' scores on the Piers-Harris test and students' accuracy scores calculated from the subscale "Defensive/Destructive."

Hypothesis 4. There will be no significant relationship between students' scores on the Piers-Harris test and students' accuracy scores calculated from the subscale "Dictatorial."

Terms and Definitions

Accurate perceivers--Children who have high accuracy scores (Cronbach, 1955) are classified as accurate perceivers.

Accuracy scores--Accuracy scores denote the congruence between each pupil's rating in a class and the mean items rating for that class. Mathematically, accuracy scores are defined by the sum of square deviations from the means on the subscale or factor scales on two instruments, and by the correlations between pupils' responses, item by item and classroom means, item by item.

Inaccurate perceivers--Children who have low accuracy scores are classified as "inaccurate perceivers."

Self-esteem--Self-esteem of children in grades 6 through 8 is measured by factors I and III of the Piers-Harris Scale (Appendix E).

Hostility--Hostility is defined as factor III of the Student's Self Image Scale by O. J. Harvey (Appendix G).

Destructive/Defensive factor--This is factor II of the Teacher Rating Scale by O. J. Harvey (Appendix F).

Dictatorial--This is factor III of the Teacher Rating Scale by O. J. Harvey (Appendix F).

Polynomial equation--This type of equation contains X's which may be squared, cubed or taken to any power. Example: $Y = 2X + 3X^2 + 3X^2$.

Least squares--This statistical term indicates that the error in a prediction equation is as minimal as possible.

Second degree equation--This type of equation contains an X term taken to the second power. Example: $Y = X + X^2$.

CHAPTER II

REVIEW OF THE LITERATURE

The studies in this review come from research on teaching, interpersonal perception, clinical psychology, and personality theory. The review provides information about the reliability and validity of rating scales, the relationship between the perceiver and the object of perception, and the characteristics of the perceiver. In addition, there are results from studies on self-esteem and accurate perception.

Rating Scales and Perception

In the process of perceiving another person, there is the person, the perceptions of the processes emanating from the person, and the distorting, confusing, and complicated factors from past experience of the perceiver (Sullivan, 1947). As students rate their teachers, the complicated interaction of these different factors limit the possibility of suitable generalizations from research studies. Holler (1967), Gillham (1969), and Costin and Grush (1973) have,

however, established some basic information on the way selected groups perceive the classrooms.

Holler (1967) hypothesized brighter students would perceive their teachers as more oriented toward achievement and nurturance; higher socio-economic status children would rate their teachers as less aggressive or dominant; and maladjusted pupils would rate their teachers as more abasing, dominant, and nurturant. Although the conclusions of the study were highly qualified, brighter children perceived their teachers as more interested in endurance (Edwards, 1959) and maladjusted pupils rated their teachers as more abasing and dominating. Gillham administered the School Perception Test to two hundred thirty-two elementary children. His conclusions were: no relationships exist between perceptual style and achievement level, intelligence, socio-economic status, and sex of the individual.

Russell (1951) and Russell and Bendig (1953) attempted to identify subgroups of overachievers and underachievers and study their perceptions of the teacher. In their conclusions, they note:

Overachievers (individuals who do better than their ability predicts) tend to rate a teacher higher than an underachiever (individuals who do less than their ability predicts) (p. 6).

McKeachie's (1957) results support this finding. Accordingly, he notes that students who do well on tests rate their teachers as more effective, i.e., provide clearer explanations, give more interesting presentations of course materials, and pay more attention to student ratings.

Costin, Greenough, and Menges (1972), in their review of student ratings note no studies have been designed to assess the hypothesis that selected groups of students assign poor ratings simply as a function of their hostility, independent of the quality of instruction. Costin and Grush (1973) noted, however, some students will perceive the classroom more negatively. They conjecture this difference is due to the discrepancy between the student value-preference and the observed teacher behavior. Similarly, Levinthal, Lansky, and Andrews (1970) believe student ratings of the teacher reflect the perceptual ideal of the students more than the behavior which is observed.

Accuracy

The fundamental issue in the use of rating scales centers upon the "accuracy" or "inaccuracy" of the perceiver's judgment. The issue is perennial, and has been studied extensively in many different fields. According to studies by

Taft (1955), Vingoe and Antonoff (1968) and Gage and Cronbach (1955), there is evidence that some individuals are better or more "accurate" judges of events. Generalizations about the perceptions of these individuals involve the traits being judged, the type of judgments required, the personality of the individual being judged and the type of relationship which exists between the person doing the judging and the person being judged.

Although differences of opinion exist on the degree of particular attributes, major reviews (Shrauger and Altrocchi, 1964) have concluded that good judges possess self-insight, cognitive complexity, social skill, detachment, adjustment, esthetic attitudes, and intraceptiveness. Vingoe and Antonoff characterize good judges or accurate perceivers as extraverted, more tolerant, and less neurotic than poor judges. Hjelle (1969) disagreed with Vingoe and Antonoff since their study contained a major methodological weakness, namely, the judges had a long acquaintance with persons being judged. However, the results from his study of accurate perceivers contained similar characteristics--tolerance, sense of well-being and psychological mindfulness.

The issue has also been studied by assessing the degree

of favorability that an individual expresses. Favorability is studied under the rubrics of self-acceptance, self-insight, and self-satisfaction. In general, studies which found positive results validated Rogers' (1951) notion that a person who is more accepting of himself is more accepting of others and, therefore, will distort his perceptions less (Berger, 1952; Omwake, 1954; Phillips, 1951).

When the degree of hostility that an individual expresses is examined, contrasting results are noted. For instance, according to Leary (1957) people who describe themselves as hostile tend to attribute hostility to others. Eriksen (1963) suggests repressive persons fail to perceive negative attributes and hostile actions of others. In studying similar effects in younger children, Dubin and Dubin (1965) note younger boys perceive their social environment in more negative terms than girls.

When the judges or raters are children the factors which are important shift slightly. Walk and Gibson (1961) and Gibson (1963) suggest the ability to be a good judge is associated with age. Children's ability to judge "still poses" accurately increases progressively from 3 to 14 years old. Walk's and Gibson's (1961) published tables note the

greatest improvement in ability to judge occurs between 9 and 11. Another two researchers, Elkind and Scott (1962), found nursery and elementary school children are successful in perceiving ambiguous figures as their ages increase. Gollin (1958) concludes that at age 10 only 18 percent of the boys and 21 percent of the girls make inferences about social judgment. Hence, this lack of abstractness influences their perceptual ability in making accurate social judgments.

Although there are many studies on the self concept, self-esteem and self-acceptance of children (Whyllie, 1961), few studies deal with the relationship of perceptual accuracy and self-esteem. In contrast, the studies on the self-esteem characteristics for adults are more plentiful.

Self-esteem

The relationship between an individual's self-esteem and the ratings or evaluation of others has been investigated by Jones (1966, 1973), Ossorio and Davis (1968), Dittes (1959) and Baron (1974). Reviews are by Berscheid and Walster (1969) and Jones (1973). In general, the evaluations or ratings given by a person of high self-esteem or low self-esteem are dependent upon (a) whether the person being

evaluated will see the evaluation, or (b) whether the person being evaluated is a long term acquaintance or a new acquaintance. Berscheid and Walster's (1969) writings suggest that if the conditions are ambiguous, i.e., the individual doing the evaluation does not know if the other person accepts or rejects him, high self-esteem people expect more acceptance and less rejection than low self-esteem people. Baron notes low self-esteem people will evaluate subjects less favorably if the evaluations are made public rather than kept private. Her results show a persistent tendency for low self-esteem subjects to evaluate an unknown other less favorably.

High self-esteem individuals, according to Shrauger and Patterson (1973), usually choose positive characteristics with greater frequency than low self-esteem subjects. Likewise, the high self-esteem individual shows more correspondence between his ratings of dimensions and his own satisfaction on those dimensions.

Reliability and Validity

One of the issues related to perceptual accuracy and self-esteem is the reliability and validity of the rating scales used to measure the perceptions of the student. Many

individuals question the stability of students' perceptions over time. Early studies, such as Guthrie's (1949) study indicate test-retest correlations of .87 to .89 when the rankings that teachers receive are examined from one year to the next. Guthrie notes student judgments are more stable than faculty judgments of teaching quality. Costin (1968), in studying the reliability of student ratings over a ten-week period, found moderate to high correlations of .70-.89. In a later study Costin (1968) found sets of student ratings on such dimensions as student involvement, teacher support or teacher control ranged from .67 to .77 Bledsoe and Brown (1968), in summarizing the research of Boyce (1954), Bryan (1963), and Drucker (1951), conclude student opinions of teachers do not change measurably during post school years or as the student matures. At the university level, McKeachie, Lin, and Mann (1971) note student ratings are as reliable as the better educational tests available.

The validity question is more difficult to resolve. Validity usually means the content of a test, questionnaire, or rating scale reflects the underlying dimension which the instrument purports to measure. In relationship to student ratings, validity suggests the student's perception of teacher behavior and classroom procedures are accurate

portrayals of events. Methodologically, this assumption is validated to the extent that students' scores derived from the scale are positively related to an independent assessment of the same content or phenomena.

The question of validity in the area of rating scales has been studied using course objectives, students' knowledge of subject matters, critical thinking skills and independent criteria (Cohan and Berger, 1970; McKeachie, 1969; McKeachie, Yi-Guaneg Lin and Mann, 1971). Positive correlations exist between rating and these criteria; however, for the most part, they range between .20 and .30. In many instances, the low correlations may be a result of a theoretical mismatch between the criteria and the rating.

Although rating scales have been validated by many methods, few studies have used observation instruments. Costin suggests the lack of the use of observation is partly due to negative findings using high inference instruments. Observation instruments have, however, shown positive results. Independent ratings given by colleagues, for instance, show positive results when they are low inference, and comparable in content Guthrie (1949, 1954) and Maslow and Zimmerman (1956) note positive results when colleagues evaluate the same teacher's classroom.

Summary

In the present study, the following generalizations from the review of the literature seemed important:

- (a) Costin, Greenough, and Menges note no studies have been designed to assess the hypothesis that selected groups of students assign poor ratings simply as a function of their hostility.
- (b) According to studies by Taft, Vingoe and Antonoff, evidence exists that some individuals are better or more "accurate" judges of events.
- (c) Shraugher and Altrocchi conclude that accurate perceivers possess self-insight, cognitive complexity, social skill, detachment, adjustment, esthetic attitudes and intraceptiveness.
- (d) According to Leary, people who describe themselves as hostile attribute hostility to others.
- (e) Baron suggests low self-esteem people will evaluate subjects less favorably if the evaluations are made public rather than kept private.
- (f) High self-esteem individuals, according to Shraugher and Patterson, usually choose positive characterization of themselves and others with greater frequency than low self-esteem subjects.

CHAPTER III

METHODOLOGY

The basic methodology for the design of the research in this study defined a suitable way of identifying the perceptions of children and relating these to specific personality dimensions. In educational research, few paradigms exist for testing perceptual-related hypotheses. In psychology, particularly the areas of interpersonal and perceptual psychology, researchers have used a basic model. The accuracy of a percept was tested by having both the judge and the subject predict each other's response on a measuring instrument. This research design, however, has been subjected to considerable criticism. Cronbach (1955) notes, for instance, that implications from research utilizing similar designs are complicated by the influence of response sets, social desirability of items, dependency resulting from the same person being a judge and a subject, and inadequate definition of constructs.

The design chosen for the present study eliminated many of the difficulties described by Cronbach (1955) and

Gage and Cronbach (1955). In the present design, students in grades six through eight and in grades four and five rated the teacher on two evaluation instruments, the Teacher Rating Scale, and the Student Climate Instrument. After the rating scales were administered, the students in grades six through eight completed the Piers-Harris Test while students in grades four and five responded to the Self-Image Scale. During the same time period in which the ratings were given, an independent observer used a low inference observation instrument to record the classroom management patterns and behavior of the teacher.

The rating forms filled out by students were used to classify pupils as accurate or inaccurate perceivers. One basis of the classification was an accuracy score. An accuracy score was derived by summing the squared differences between item means computed on each subscale and the item ratings given by each pupil for the same subscale. The accuracy score which is really a distance measure is numerically small if the pupils ratings are very close to the average ratings given by the class. Correspondingly the accuracy score is very large if the pupils' ratings are very different from the average.

Another basis used for classification of students as

either accurate or inaccurate perceivers was the correlation coefficient. Each pupil's response items on a subscale were correlated with the mean response items on that subscale. A high correlation resulted if the shape of the pupil's response pattern was similar to the class.

Students were classified as inaccurate perceivers only if two criteria were met.

- (a) The probability was .15 or less that a pupil's accuracy scores were significantly different from the average accuracy scores in that class.
- (b) The correlation of each pupil's items on a subscale of the teacher rating scale was not related to mean item ratings for that subscale.

Thus, each pupil classified as an inaccurate perceiver had a profile of items on a subscale which differed from the mean item profile of a subscale both in terms of distance and in terms of shape.

The data from the observers were then correlated with the means of the pupil ratings for each subscale. This procedure provided some validation of the concept of "accuracy." That is, since the classification of students into groups of accurate and inaccurate perceivers was based on (a) the computed discrepancy of the pupil's ratings from the item means of all the pupils in the class, and (b) the

correlation of the pupil's ratings with the item means on a subscale, it was necessary to provide some indication of the behavioral events with which the item means correlated. If the mean ratings of the pupils did not correlate with logically related behavioral events recorded by an independent observer, then any classification of pupil as accurate or inaccurate would be meaningless.

Test of Hypotheses

The four hypotheses tested in this study were:

Hypothesis 1. There will be no significant difference in the self-esteem scores of students (grades six through eight) identified as "accurate perceivers" and students identified as "inaccurate perceivers."

Hypothesis 2. There will be no significant difference in the hostility scores of children (grades four and five) identified as "accurate perceivers" and "inaccurate perceivers."

Hypothesis 3. There will be no significant relationship between students' self-esteem scores on the Piers-Harris test and students' accuracy scores calculated from the subscale "Defensive/Destructive."

Hypothesis 4. There will be no significant relationship between students' self-esteem scores on the Piers-Harris test and students' accuracy scores calculated from the subscale "Dictatorial."

A test of the hypothesis that inaccurate perceivers would have lower self-esteem scores than accurate perceivers

was made by comparing the self-esteem scores of pupils under the two conditions, "accurate" perceptions versus "inaccurate" perceptions. Since there were related subscales on the self-esteem inventory, a test of the null hypothesis was made using Hotelling T^2 (Overall and Klett, 1972; Anderson, 1958). T^2 is a multivariate test statistic which is similar in function to the univariate test called student's t . This statistic is an indication of the degree of differences in two sets of data.

A test of the hypothesis that children identified as inaccurate perceiver would describe themselves as more hostile was made by using a simple regression equation:

$$Y = b_0 + b_1 X_1 + e$$

where

y = scores on the subscale "hostility" of the Student Self-Image Scale.

X_1 = 1 if an accurate perceiver, 0 otherwise.

The results obtained from the test of regression coefficient b_1 is comparable to the results obtained from a t test (Anderson, 1958; Overall and Klett, 1972).

The mathematical model for testing the relationship between the self-esteem scores of students and their accuracy scores of the teacher was generated from a regression

equation. This solution was derived by fitting a second degree polynomial equation using two least squares methods: a stepwise multiple regression and polynomial regression. A non-linear model provided the best test of the relationship between the students' self-esteem scores and their accuracy rating calculated from the subscale entitled "Defensive/Destructive." Likewise, the fourth hypothesis was tested in a similar manner, except the dependent variable was the accuracy scores of students on the subscale entitled "Dictatorial." The equations for the two models appear below.

Model one:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + e$$

where

Y = accuracy scores calculated from the Teacher Rating Instrument--Defensive/Destructive or Dictatorial

X₁ = subscale of the Piers-Harris--Behavior

X₂ = subscale of the Piers-Harris--Intellectual and School Status

X₃ = subscale of the Piers-Harris--Physical Appearance and Attributes

X₄ = Subscale of the Piers-Harris--Anxiety

X₅ = Subscale of the Piers-Harris--Popularity

X_6 = subscale of the Piers-Harris--Happiness
and satisfaction

e = Error.

Model two:

$$Y = B_0 + B_1X_1 + B_1X_1^2 + e$$

where

Y = accuracy scores calculated from the Teacher
Rating Instrument--Defensive/Destructive or
Dictatorial

X_1 = subscale score of Piers-Harris

X_1^2 = the subscale score of the Piers-Harris
squared

e = Error.

The Sample

The sample for testing the characteristics of children identified as accurate or inaccurate perceivers was taken from the data collected by the Alcohol Education Project. This sample included 24 classrooms, 23 in which the teachers are women. The median age of the teachers was 26; the average years of teaching experience was 4.2 years. Of the seven hundred and fifty-four students in these classrooms, 38 percent were Negro, 61 percent were Caucasian and 2 percent represented other races. The students in the sample came from both urban and rural populations, with the urban

group constituting 85 percent. In terms of the socio-economic characteristics, 14 percent receive welfare assistance; an additional 8 percent of the sample were from families falling below the poverty standards established by the federal government (Lawrence, 1975).

The Instruments

The instruments for measuring the self-esteem of the children and the classroom climate created by the teacher were the Self-Image Scale and the Teacher Rating Scale by O. J. Harvey (1966), the Piers-Harris Test by Ellen Piers and Dale Harris (1969), and the Florida Climate and Control System by Robert Soar, Ruth Soar, and Marjorie Ragosta (1973).

The items which comprise the subscales of the Piers-Harris test, the Teacher Rating Scale, and the Self-Image Scale are primarily affective. For example, the items on the subscale entitled "Defensive/Destructive" characterize a teacher who has little regard for students. The teacher might act better than students, criticize a student for minor things or be more interested in acting like a big shot. The items on the subscale entitled "Hostility" describe a student who gets mad easily, likes to fight with

people, and who wants to do things his own way.

The items on the Piers-Harris Test vary according to the content emphasis of the subscale. The six subscales are Happiness and Satisfaction, Popularity, Anxiety, Physical Appearance and Attributes, Intellectual and School Status, and Behavior. The two subscales whose meaning might be unclear from their nomenclature are Intellectual and School Status, and Behavior. Items on the former subscale contain information about the child's assessment of his school ability. For instance, the items "I am smart," "I am dumb about most things," and "I am slow in finishing my school work" are typical. On the subscale entitled "Behavior," the content of the items characterizes the child's behavior at home and school. For example, items such as "I behave badly at home," and "I do many bad things," are representative.

CHAPTER IV

RESULTS

Criterion of Accuracy

One of the primary purposes of this study was to establish a criterion of accuracy. The mean of the pupils' rating was chosen as a criterion. The validity of this procedure was established by using an independent observer. That is, the relationship between the average ratings of pupils and an independent assessment by an observer provided some validity for the use of mean item ratings for classifying accurate or inaccurate perceivers. The correlations of the items from the factorial subscale of the Teacher Rating Instrument with the observation data for 20 classrooms are shown in Table 1. Only significant correlations above .40 for the two subscales, Defensive/Destructive and Dictatorial are listed.

The subscale entitled Defensive/Destructive contains 12 items which correlate with the observation data from the Florida Climate and Control System (FLACCS). The average

TABLE 1

Correlations of Items from Defensive/Destructive
Subscale and Items from FLACCS

Item	Subscale	Defensive/Destructive Correlation
1	T acts better than another	
	.T central	.47
	.T withdraws	.50
	.P limited choice	.47
	.T listens carefully	-.47
	T positively redirects	-.41
2	T acts like a big shot	
	.P observes passively	.47
	.T glares	.58
	.T pats P	-.48
3	T criticizes P for minor things	
	.P laughs	.48
	.P tattles	.47
	.T points, shakes finger	.45
	.T warm and congenial	-.54
	.T agreeable	.40
4	T tries to give impression that he knows more than he does	
	.T central	.44
	.T collaborates with child	-.41
	.T yells	.45
	.T shakes finger	.45
5	T tries to embarrass P who disagrees with him	
	.T positive facial	-.49
	.P laughs	.57
	.P teases	.47
	.P tattles	.49

TABLE 1 (Continued)

Item	Subscale	Defensive/Destructive Correlation
6	T is cold and unfriendly both inside and out	
	.T directs without reason	.50
	.T positive facial	-.46
	.T yells	.47
	.T shakes finger	.49
7	When offering criticism, T criticizes the student	
	.P observing passively	.49
	.P responding to internal stimuli	.49
	.P frequent socialization	.64
8	T expects P to learn facts without telling reason	
	.T attends P briefly	.45
	.P fantasy	.55
	.P teases	.61
	.P laughs	.67
	.T waits for P	-.47
9	T gets angry when a student tries to correct something he says	
	.P withdraws	.42
	.T warns	.50
	.P laughs	.63
	.P teases	.63
	.P commands another	.64
	.T warm, congenial	-.65
10	T tries to be a good teacher	
	.P obeys direction	.44
	.P says no	-.43
	.P threatens	-.43
	.T accepts favor	.44
	.T waits for child	.42
	.T warm, congenial	.42

TABLE 1 (Continued)

Item	Subscale	Defensive/Destructive Correlation
11	T wants students to learn	
	.T criticizes	-.44
	.P gives reason	.50
	.T supports	.49
	.T accepts favor	.48
12	T uses sarcasm a lot toward P	
	.T free groups	-.42
	.P feels left out	.41
	.T pats child	-.49

The items marked with a "." are from FLACCS.

correlation for FLACCS items shown here with the subscale of the Teacher Rating Instrument was .48. Approximately one-half of the observation items which correlate with this scale are verbal. Children's verbal behavior tended to correlate slightly higher than either the children's or teacher's non-verbal behavior.

The correlations of the subscale entitled "Dictatorial" with the FLACCS are listed in Table 2. Average correlation of the observation data with this subscale is approximately .46. Most of the items which correlated with the pupils' ratings of the teacher represented children's disruptive classroom behavior, or the teacher's verbal and non-verbal classroom control behavior.

Hypotheses

The analysis of the self-esteem scores of the students identified as "inaccurate perceivers" and "accurate perceivers" did not show a significant difference. The Hotellings T^2 test was $F^2_{179} = .48576$. This multivariate test of the two centroids indicated no significant difference between the groups. In a series of univariate F tests between the variables on the subscales, only one subscale measuring an individual's happiness and satisfaction toward

TABLE 2

Correlation of Items from Dictatorial Subscale
and Items from FLACCS

Item	Dictatorial
1	
T acts like a dictator	
.T uses blackboard	.47
.P reports rule to another	.44
.P fantasy	.41
.T scolds	.44
.T shows disgust	.45
.T pushes	.51
.P feels left out	.48
2	
P do work out of fear	
.P aggressive behavior	.44
.P manipulation	.45
.P resists authority	.40
.T physical withdrawal	.47
.T gestures	-.41
.T uses time pressure	.47
.T say sh's	.59
.P no choice	.49
.T scolds	.44
.P resists, disobeys	.40
.P helps another	-.70
3	
T gets upset if students don't do exactly as she says	
.T ignores	.40
.T positively redirects	-.41
.T positive facial	-.41
.T gives direction	.59
.P chooses another	-.51
4	
T tries to make students follow rules simply because she says so	
.P engaged in negative inappropriate behavior	.42
.T control	.44
.P collaborates	-.40
.T yells	.45
.P says no	.42
.T shakes finger	.45

TABLE 2 (Continued)

Item	Dictatorial	
5	T is patient with students	
	.P seek support	.47
	.T positive facial	.47
	.P no choice	.55
	.T yells	.50
6	T decides everything that happens in class	
	.T central	.49
	.T nods, smiles	-.65
	.P engages in out-of-bound behavior	.44
	.T structured group	.45
	.P child resists	.45

.FLACCS Items

life approached a significant difference ($P = .10$). On this subscale of the Piers-Harris Test, persons identified as accurate perceivers had an average value of 4.25 with a standard deviation of 1.14. In contrast, persons identified as inaccurate perceivers had an average value of 3.87 on the nine-item subscale (see Table 3).

The analysis of the hypothesis that children in grades four and five would have hostility scores higher than those identified as accurate perceivers show no significant results. The mean value for accurate perceivers was 2.94 while the mean value for inaccurate perceivers was 3.00. The F value indicating differences between the groups was .2094 (see Table 4).

A test of the third hypothesis that a relationship existed between the students' self-esteem scores and their accuracy scores from the subscale "Defensive/Destructive" yielded some significant findings. A polynomial equation and the stepwise regression equation was used to test the hypothesis. The results from the stepwise regression indicated that when the data were expressed in squared or cubed forms, the regression of the self-esteem scales on the accuracy scores accounted for only a small amount of the variation. For example, in the polynomial form of a second degree equation, the regression of subscales of the Piers-Harris

TABLE 3

Difference Between Accurate and Inaccurate
Perceivers on Piers-Harris Test

Piers-Harris Subscale	Accurate Perceivers (N = 150)	Inaccurate Perceivers (N = 32)	F		
	\bar{X}_1	\bar{X}_2	DF	F	P
Behavior	5.39	5.71	1,180	.27	
Intellectual					
Status	6.21	6.09		.04	
Physical					
Appearance	2.18	2.12		.09	
Anxiety	5.14	4.87		.65	
Popularity	3.56	3.53		.02	
Happiness	4.25	3.87		2.71	.10
	S_1	S_2			
Behavior	3.23	2.94	Multivariate		
Intellectual					
Status	2.94	3.01	2,179	F	
Physical					
Appearance	.94	.90		.48576	
Anxiety	1.74	1.36			
Popularity	1.10	1.26			
Happiness	1.14	1.33			

TABLE 4

Difference Between Accurate and Inaccurate
Perceivers on Variable "Hostility"

Subscale	Accurate Perceivers	Inaccurate Perceivers	F
	X_1	X_2	
Hostility	2.94	3.000	.20
	S_1	S_2	
	1.10	1.23	

accounted for only 7 percent of the total variation. In Table 5, it can be seen that the subscale entitled Happiness accounted for the greatest increase in the multiple R., .00 to .0273.

Although the second degree form of the polynomial did not account for a significant portion of the variation, the second degree polynomial provided the best fit for the data when subscales were individually regressed on the accuracy scores. Two of the subscales, anxiety and happiness, showed significant non-linear relationships with accuracy scores. The F ratios for the test of the regression sums of squares are listed in Tables 6 and 7. Additional polynomial equations were fitted to the data; however, as is illustrated in Tables 6 and 7, only the second degree polynomial was significant at the .01 level.

In the final hypothesis an investigation of the relationship between the scores of students on the Piers-Harris test and their accuracy scores was made. The results from the stepwise regression procedure were similar to the previous analysis. The scores on the subscale of the Piers-Harris test were again squared since non-linear equations seem to best fit the data. The only variable which approached a significant F ratio of 3.10 was named "Intellectual Status."

TABLE 5

Stepwise Regression of the Self-esteem Subscales on the Accuracy Scores from the Defensive/Destructive Subscales

Step	Variable	Multiple R	RSQ	D.F.	*F-Ratio
1	Happiness	.1659	.0273	1,89	2.4907
2	Intellectual Status	.2131	.0454	2,88	1.6305
3	Anxiety	.2377	.0565	3,87	1.0104
4	Behavior	.2536	.0643	4,86	.7075
5	Popularity	.2620	.0686	5,85	.3914
6	Physical Appearance	.2654	.0704	6,84	.1607

*F-Ratio value is the test of the regression sum of squares at each step.

TABLE 6

Polynomial Regression of Happiness on the Accuracy Scores
from Subscale "Defensive/Destructive"

Source of Variation	DF	SS	MS	F-Ratio
Linear Term	1	.391	.39	.50
Quadratic Term	1	4.170	4.17	5.61
Deviation about Regression	87	64.327	.73	
Total	89	68.888		

Additional Polynomial Regression Equations for the
Students' Scores on the Subscale Happiness

Source of Variation	DF	SS	MS	F-Ratio
Linear Term	1	.391	.39	N.S.
Quadratic Term	1	4.170	4.17	S.
Cubic Term	1	.110	.11	N.S.
Quartic Term	1	.240	.24	N.S.
Quintic Term	1	1.43	1.43	N.S.
Deviation about Regression	84	62.54	.74	N.S.
Total	89	68.88		

TABLE 7

Polynomial Regression of Anxiety on the Accuracy
Scores from Subscale Dictatorial

Source of Variation	DF	SS	MS	F-Ratio
Linear Term	1	.502	.502	.67
Quadratic Term	1	4.561	4.561	6.11
Deviation about Regression	87	64.967	.746	
Total	89	70.03		

The multiple R for this variable was .16, accounting for only .027 percent of the variation. None of the other self-esteem subscales added significantly to the total amount of variation accounted for (See Table 8).

A polynomial regression equation also failed to yield a significant non-linear fit to the data.

TABLE 8

Stepwise Regression of the Self-esteem Scores on the Accuracy Scores from the Subscale "Dictatorial"

Step	Variable	Multiple R	RSQ	D.F.	*F-Ratio
1	Intellectual Status	.16	.027	1,89	2.46
2	Behavior	.18	.033	2,88	.59
3	Happiness	.19	.036	3,87	.25
4	Popularity	.19	.038	4,86	.12
5	Physical Appearance	.19	.038	5,85	.05
6	Anxiety	.19	.038	6,84	.02

*F-Ratio value is the test of the regression sum of squares at each step.

CHAPTER V

DISCUSSION AND CONCLUSION

Accuracy

Earlier studies suggested that a continuing problem related to research on student ratings of the teacher was the identification of characteristics of students whose perceptions of the classroom were not congruent with classmates. In this study, this group of students was identified as "inaccurate perceivers." The comparison of the group identified as "inaccurate perceivers" and the group identified as "accurate perceivers" revealed a small mean difference on a subscale of the Piers-Harris Test. Students defined as more "inaccurate perceivers" tended to describe themselves as less happy persons, less content with the way they were, and less cheerful in their outlook on life.

Although this finding was not statistically significant, the direction of the findings is consistent with previous findings of authors (Travers, 1941; Travers, 1943) who indicated that well adjusted, happier persons are less

subject to protecting themselves, and consequently are better perceivers. Whyllie (1961) notes that happier individuals display less ego needs, thus they are less likely to attribute their own feelings to others when making evaluation.

Interpretations regarding findings about either "accurate" or "inaccurate perceivers" should be cautiously made. Areas of disagreement exist about the term "accuracy," especially when the criterion of accuracy is the pooled judgments of peers. Taft (1955) argues that a criterion of accuracy based on mean ratings simply measure individuals who are conservative in their ratings of others. In this study, however, the criterion for the selection of accurate perceivers was based on ratings similar in shape and distance from mean values.

Hostility

Fourth and fifth graders classified as inaccurate perceivers did not describe themselves as more hostile than the group of accurate perceivers. The test of means indicated no significant difference between the groups.

Theoretically, children who repress their emotions are expected to perceive themselves or their environment more

negatively. Also, they are thought to filter their perceptions through their egos to such a degree that they would score high on statements such as "If I could I would fight with others"; and "I get mad at others who work with me." However, this assumption was not substantiated.

Although many possibilities exist as to why this hypothesis was not substantiated, the most plausible reason may be the psychometric properties of the instrument. Originally, a dichotomous, yes-no, rating scale was chosen so that younger children would have less difficulty in making perceptual and cognitive discriminations. However, since there was a smaller number of response choices on the instrument, the variation on each subscale was less. The small amount of variation did not provide an adequate measure for separating students into distinct groups. Hence, the basis for classifying pupils as accurate or inaccurate perceivers was weak.

Another plausible reason for the lack of significant differences between groups was that children, even at an early age, may develop a response set based on the social desirability of the items. That is, the children may have had a tendency to mark a positive response to socially laden items which reflect their personal orientation toward others.

Self-esteem

When self-esteem was defined in terms of the student's perception of his own popularity, behavior, anxiety, intellectual status or happiness, there were non-linear relations to their accuracy scores derived from the subscale, Defensive/Destructive. The two significant non-linear relationships were between the subscales happiness, and anxiety. These non-linear relationships, however, did not account for a substantial amount of the total variation.

The Defensive/Destructive subscale characterizes a teacher similar to Ryan's (1970) X_0 classification, i.e., aloof, egocentric, and restrictive in teaching behavior. Students' accuracy scores derived from this subscale would indicate the similarity between the student's perception of the teacher and the average pupils' perceptions of the teacher and classroom. A low accuracy score indicates the pupils' perceptions of the classroom are close to average perception; while a high accuracy score indicates a large discrepancy from the average pupil's perception.

A non-linear relationship between the student's accuracy score and the student's score on the subscale "happiness" can be easily interpreted by comparing the results in this study to an ideal curvilinear relationship. Ideally the

perfect curve fitting the relationship between accuracy scores and self-esteem is shown in Figure 1. At point C on the curve, students who have a high accuracy score would have a low score on happiness. At point B students who have average scores on accuracy would have average accuracy scores. At point A, students who had low accuracy scores would have high scores on happiness.

The non-linear curve fitting the data in this study was similar to the ideal case (See Figure 2). Since the two curves are similar, the interpretation is also similar. That is, students who indicate they are not happy are more likely to have accuracy scores which are different from the average perceptions of the pupils in the classroom.

The second non-linear relationship was between students' scores on the subscale for anxiety and their scores on accuracy. The shape of the curve which fit this relationship was the reverse of the curve shown in Figure 1 (See Figure 3). Students who had high anxiety scores, on the whole, also had scores which were more discrepant from the average pupil's perceptions of the classroom. The general implications of this relationship is that students low in self-esteem as reflected by anxiety scores are more sensitive to the type of behavioral patterns characterized on the

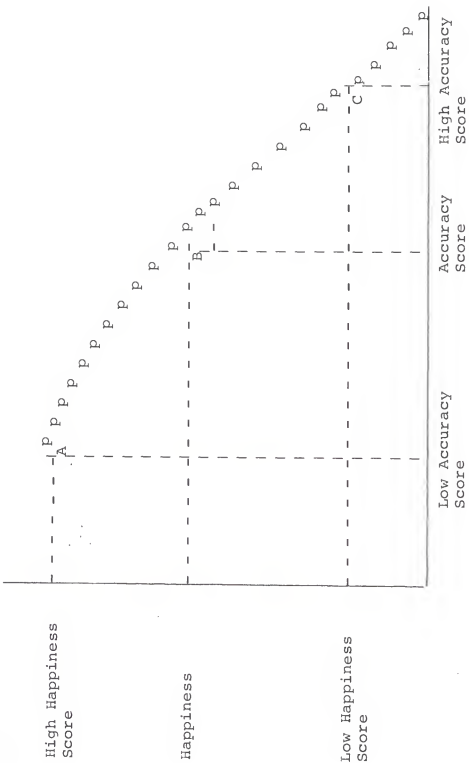


Figure 1. Ideal Relationship Between Accuracy Scores and Self-esteem.

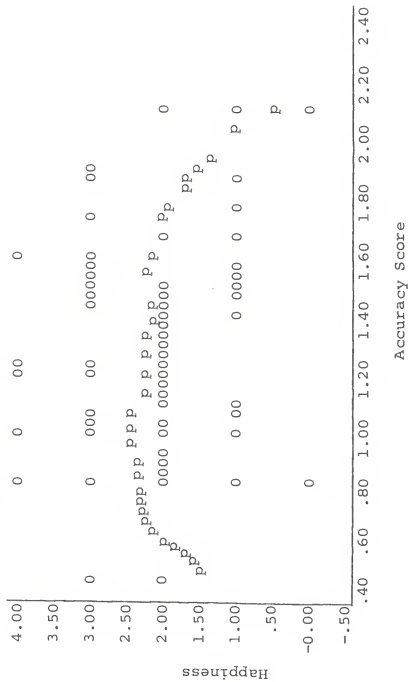


Figure 2. Plot of the Observed and Predicted Values for the Accuracy Scores and Happiness.

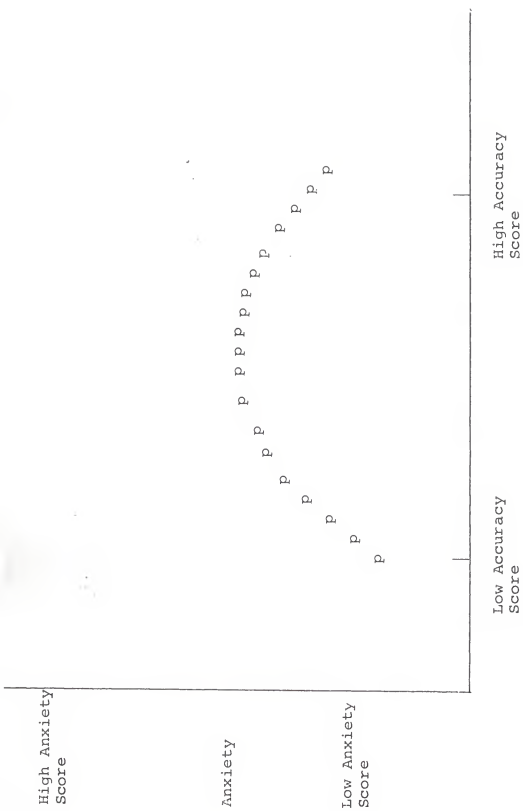


Figure 3. Relationship Between Anxiety and Accuracy Scores.

Defensive/Destructive subscales. Thus, high anxious students may filter their perceptions differently than the average pupil in the classroom. In any case, pupils who are more anxious tend to perceive the teacher differently and this difference is reflected in the ratings the pupils give the teacher, particularly when the ratings involve items similar to those on the Defensive/Destructive subscale.

Conclusion and Summary

Of the many studies dealing with teacher ratings, only a few have considered the personality correlates of these evaluations (McKeschie, 1963; Remmers, 1963), or the accuracy of the perceptions of the students doing the rating. Rezler hypothesized the identification and study of students whose perceptions of the classroom differ might provide additional insights into the complexity of the situation under which the teacher ratings are made.

Kerlinger noted that individuals with different educational values describe different traits as generally being important for teachers (Kerlinger, 1964).

The results of the present study do not permit any unqualified conclusions. The basis of the first two hypotheses was the establishment of a suitable criterion

of accuracy for the classification of students. This criterion was mathematically defined as the sum of the square differences between each pupil rating in a class and the mean item ratings by the class. Furthermore, accuracy was defined as the correlation of each pupil's ratings with mean item ratings.

Using this criterion as a basis for classification, accuracy scores were derived, and hypotheses tested. The data from the hypotheses showed some consistency in psychological meaning for the hypotheses generated. That is, there was a small difference in the means on the self-esteem variable, happiness. Students identified as inaccurate perceivers tended to be less happy. The difference in the means became more apparent when the full distribution of scores for accurate and inaccurate perceivers were analyzed. A significant non-linear relationship between the accuracy scores and the self-esteem variable, happiness, was detected. Students who had accuracy scores which were significantly different from the means of the pupils in the classroom again tended to be less happy.

The analysis of the relationship between another variable, anxiety, and accuracy scores also showed a significant non-linear trend. Students who were more anxious tended to

perceive the teacher differently from most pupils, and consequently their ratings of the teacher were more discrepant than the average ratings of the teacher.

In conclusion, several general interpretations seem appropriate for the outcome: (a) the means of the items on the teacher rating scale were given some validation as a criterion of accuracy through the use of low inference observation instruments; (b) students could be classified as either "accurate" or "inaccurate perceivers" in the older group (grades six through eight), but the teacher rating instrument for the younger groups (grades four and five) did not effectively separate students into two distinct groups; (c) some linear and non-linear relationships between self-esteem scores and accuracy scores exist, i.e., students who are more inaccurate perceivers tend to be less happy and more anxious; and (d) hostility, as measured in this study, did not have a significant bearing on children's ratings of the teacher.

APPENDICES

APPENDIX A

TEACHER RATING SCALE

(Children in grades 7 through 12 rate
the teacher with this instrument)

APPENDIX A

TEACHER RATING SCALE

(For student evaluation of teacher)

As you are probably aware, any teacher is better liked by some students than by others, and some students enjoy that teacher's class more and learn more from her or him than do other students. Try as they may, few, if any teachers are well-liked by every student and do an effective job of teaching every student. One reason is that students themselves are very different. This survey, which is being conducted by Dr. O. J. Harvey and his co-workers of the University of Colorado, is trying to find out how different teachers are viewed by different students. The teacher whom you are being asked to rate has kindly given his or her permission for us to ask you to complete the questionnaire we will give you. Please answer each question as accurately as possible.

You are requested to sign your name as well as provide other information about yourself; the sole reason for this is so that we can keep together the different questionnaires you will be given. None of your answers will be made known to any teacher or school official. Only those of us doing this research will ever know the answers any one of you gave to any question. Even we will not analyze individual answers but will simply include your answers among the answers of all other students so that when we get through no one will know your own specific answers.

Please work rapidly and do not talk or compare your answers with those of other students. We are interested in what you personally feel.

TEACHER RATING SCALE

(For student evaluation of teacher)

Your Name _____ Grade _____ Sex _____

Teacher being rated _____ Class _____

The questions that follow are about the teacher whose name appears above. Answer each question as accurately as possible by marking in the one space on the answer sheet that best answers each question.

- 1 = I agree completely
- 2 = I agree mostly (i.e., more than disagree)
- 3 = I agree and disagree about equally
- 4 = I disagree mostly (i.e., more than agree)
- 5 = I disagree completely

1. Her (his) class is more enjoyable than most classes.
2. Is better liked by the students than most teachers.
3. Acts as if she (he) is better than the students.
4. Acts like a dictator in class.
5. Students are more likely to do the assignments she (he) makes out of fear, than out of curiosity or interest in learning.
6. Is more interested in acting like a big shot than getting students to learn.
7. The class feels free to offer suggestions to her (him) on what they would like to do in class.
8. Is highly respected as a teacher by most students.
9. Treats students fairly.
10. Criticizes students severely for minor things.
11. Gets upset if students don't do exactly as she (he) says.
12. Gets the students to feel free to ask questions about things in class they don't understand.
13. Seriously considers ideas expressed by the students.
14. Tries to give the impression she (he) knows a lot more than she (he) actually does.
15. Tries to make students follow rules simply because she (he) says so instead of explaining why the rules are important.
16. Students are freer in this class than most others to express their true feelings on any topic.

17. Most students seem to think about ideas more in her (his) class than in most classes.
18. Treats the students with a great deal of personal respect.
19. Students behave in class more out of fear than respect for her (him).
20. Succeeds in making difficult problems or issues clear and understandable.
21. Where possible, lets students do things their own way.
22. Is warm and friendly to the students both inside and outside of class.
23. Students in this class seem to work more because they are really interested than just to get a grade or please the teacher.
24. Generally, most students learn more about important things in her (his) class than in most classes.
25. Is cold and unfriendly both inside and outside of class.
26. Tries to embarrass students who disagree with her (him).
27. Is patient with students.
28. Helps the student express his or her ideas in their own words.
29. Is genuinely concerned about the students' interests and welfare.
30. If she (he) requires the students to do something which they feel doesn't make sense, they feel free to tell her (him).
31. Is imaginative and creative in the ways she (he) teaches.
32. Generally, the class is eager to cooperate with her (him).
33. Gives the students more freedom in class than most teachers.
34. When offering criticism, is more likely to criticize the students personally than their ideas.
35. Is more interested in the students' understanding an idea or principle than just memorizing something and giving it back as the right answer.
36. Is willing to change her (his) mind as the result of an idea or argument expressed by a student.
37. Generally criticizes the students when they do something she (he) dislikes but rarely praises them for anything.
38. Decides everything that happens in class, even little things.
39. Knows her (his) subject and succeeds in presenting it clearly.
40. Expects the students to learn a bunch of facts without trying to make clear why the facts are important.
41. Gets angry when a student tries to correct something she (he) says.
42. Most of our time in this class is spent very profitably.
43. Tries to be a good teacher.

44. Tries to make sure more than one point of view is presented when she (he) is discussing a problem or an idea.
45. Trusts the students to be honest.
46. Has a lot of rules in class that don't make sense.
47. Most students follow her (his) rules more because they want to and the rules are reasonable than because they are afraid not to.
48. Wants the students to learn for their own good and not because it will make her (him) look good to the principal.
49. Uses sarcasm a lot toward students when they displease her (him).
50. Is relaxed and casual during class.
51. Doesn't seem to care whether or not the students understand what is being taught.
52. Is interested in the students learning to be independent and think for themselves.
53. When a student makes a mistake or misbehaves, she (he) usually tries to explain to the student what the mistake or misbehavior was rather than criticizing the student or trying to make him feel bad.
54. Students in this class seem more likely to discuss ideas among themselves than in most classes.

APPENDIX B

TEACHER RATING SCALE

(Children in grades 4 through 6 rate
the teacher with this instrument)

TEACHER RATING SCALE

(Children in grades 4 through 6 rate
the teacher)

BOY

GIRL

SAMPLE QUESTIONS

We have to raise our hands before we can talk in _____'s
class.

YES

NO

We can chew gum in _____'s class.

YES

NO

1. We are always told what to do in _____'s class.

YES

NO

2. We get in trouble if we don't behave the way _____
wants us to.

YES

NO

3. Our class is very quiet most of the time.

YES

NO

4. We often make _____ angry at us.

YES

NO

5. _____ likes some children in the class better than the rest.

YES

NO

6. When _____ leaves the room we get noisy and act up.

YES

NO

7. Many times we do not know what to do in the lesson _____ gives us.

YES

NO

8. School work is more like fun in _____'s class.

YES

NO

9. _____ brings in other people to tell us more about what we are studying.

YES

NO

10. _____ lets us help each other with our school work.

YES

NO

11. Many times _____ thinks we have important things to say.

YES

NO

12. Some children play tricks and bother each other when _____ isn't looking.

YES

NO

13. _____ explains why we are learning the school work.

YES

NO

14. We fight a lot when we're in _____'s class.

YES

NO

15. _____ often lets us do whatever we like when we are through with our work.

YES

NO

16. _____ likes to have us think of new and different ways to do our work.

YES

NO

17. _____ lets us guess answers.

YES

NO

18. _____ knows what other things we are interested in besides our school work.

YES

NO

19. _____ only talks with us about things that are in our school books.

YES

NO

20. We have to do things the same way all the time in _____'s class.

YES

NO

21. Most of the children like to work hard when we are working with _____.

YES

NO

22. We can ask questions when we are not sure what _____ wants us to do.

YES

NO

23. We often help plan the work we are going to do in _____'s class.

YES

NO

24. We can disagree with _____ or other children in the class.

YES

NO

25. We always know exactly what _____ wants us to do.

YES

NO

26. _____ lets us think up some of our own projects.

YES

NO

27. _____ often lets us talk to each other in class.

YES

NO

28. _____ is fun to be with in school.

YES

NO

29. _____ thinks what he/she says is always right.

YES

NO

WAIT TO TURN TO THE NEXT PAGE UNTIL YOU ARE GIVEN FURTHER INSTRUCTIONS.

APPENDIX C

PIERS-HARRIS SCALE

(This instrument measures the self-esteem
of children in grades 7 through grades 12)

THE PIERS-HARRIS CHILDREN'S SELF
CONCEPT SCALE

(The Way I Feel About Myself)

CODE
AGE GIRL OR BOY
GRADE SCHOOL
DATE

Here are a set of statements. Some of them are true and so you will circle the yes. Some are not true of you and so you will circle the no. Answer every question even if some are hard to decide, but do not circle both yes and no. Remember, circle the yes of the statement if generally like you, or circle the no if the statement is generally not like you. There are no right or wrong answers. Only you can tell us about yourself, so we hope you will mark the way you really feel inside.

1. My classmates make fun of me yes no
2. I am a happy person yes no
3. It is hard for me to make friends yes no
4. I am often sad yes no
5. I am smart yes no
6. I am shy yes no
7. I get nervous when the teacher calls on me . . yes no
8. My looks bother me yes no
9. When I grow up, I will be an important person. yes no
10. I get worried when we have tests in school , . yes no
11. I am unpopular yes no

12. I am well behaved in school yes no
13. It is usually my fault when something goes
wrong yes no
14. I cause trouble to my family yes no
15. I am strong yes no
16. I have good ideas yes no
17. I am an important member of my family yes no
18. I usually want my own way yes no
19. I am good at making things with my hands . . . yes no
20. I give up easily yes no
21. I am good in my school work yes no
22. I do many bad things yes no
23. I can draw well yes no
24. I am good in music yes no
25. I behave badly at home yes no
26. I am slow in finishing my school work yes no
27. I am an important member of my class yes no
28. I am nervous yes no
29. I have pretty eyes yes no
30. I can give a good report in front of the
class yes no
31. In school I am a dreamer yes no
32. I pick on my brother(s) and sister(s) yes no
33. My friends like my ideas yes no
34. I often get into trouble yes no

35. I am obedient at home yes no
36. I am lucky yes no
37. I worry a lot yes no
38. My parents expect too much of me yes no
39. I like being the way I am yes no
40. I feel left out of things yes no
41. I have nice hair yes no
42. I often volunteer in school yes no
43. I wish I were different yes no
44. I sleep well at night yes no
45. I hate school yes no
46. I am among the last to be chosen for games . . yes no
47. I am sick a lot yes no
48. I am often mean to other people yes no
49. My classmates in school I think I have good
ideas yes no
50. I am unhappy yes no
51. I have many friends yes no
52. I am cheerful yes, no
53. I am dumb about most things yes no
54. I am good looking yes no
55. I have lots of pep yes no
56. I get into a lot of fights yes no
57. I am popular with boys yes no

58. People pick on me yes no
59. My family is disappointed in me yes no
60. I have a pleasant face yes no
61. When I try to make something, everything seems
to go wrong yes no
62. I am picked on at home yes no
63. I am a leader in games and sports yes no
64. I am clumsy yes no
65. In games and sports, I watch instead of play . yes no
66. I forget what I learn yes no
67. I am easy to get along with yes no
68. I lose my temper easily yes no
69. I am popular with girls yes no
70. I am a good reader yes no
71. I would rather work alone than with a group. . yes no
72. I like my brother (sister) yes no
73. I have a good figure yes no
74. I am often afraid yes no
75. I am always dropping or breaking things. . . . yes no
76. I can be trusted yes no
77. I am different from other people yes no
78. I think bad thoughts yes no
79. I cry easily yes no
80. I am a good person yes no

APPENDIX D

STUDENT'S SELF-IMAGE SCALE

(This instrument measures the self-image
of children in grades 4 through 6)

STUDENT'S SELF-IMAGE SCALE
(Children in grades 4 through 6)

1. When the class is noisy it bothers me.

YES

NO

2. Sometimes I get mad at my teacher.

YES

NO

3. I get along with the other children in my class.

YES

NO

4. I like to have lots of friends.

YES

NO

5. I feel bad when other children get mad at me.

YES

NO

6. I like to work with other children.

YES

NO

7. I like to be told exactly what work to do and how to do it.

YES

NO

8. If I could I'd fight with lots of people.

YES

NO

9. If I am not sure about what we are doing in our school work it makes me feel scared or worried.

YES

NO

10. It's O.K. if other children talk to me or hang around when I am working.

YES

NO

11. I get along well with my teachers most of the time.

YES

NO

12. I like it when I can do things my own way.

YES

NO

13. I like almost everybody in my class.

YES

NO

14. I'd like to fight anybody who tries to push me around.

YES

NO

15. I like to work by myself.

YES

NO

16. Most children are fun to play with.

YES

NO

APPENDIX E

FACTORIAL SCALES OF PIERS-HARRIS

FACTORIAL SCALES OF PIERS-HARRIS

Factor Structure of the Scale

N = 457 6th graders

Factor I

Behavior

<u>No.</u>	<u>Item</u>	<u>Loading*</u>
22	I do many bad things	.66
35	I am obedient at home	-.64
25	I behave badly at home	.62
34	I often get into trouble	.60
14	I cause trouble to my family	.55
78	I think bad thoughts	.54
76	I can be trusted	-.53
80	I am a good person	-.50
12	I am well behaved in school	-.50
48	I am often mean to other people	.48
31	In school I am a dreamer	.45
56	I get into a lot of fights	.42
64	I am clumsy	.38
67	I am easy to get along with	-.37
13	It is usually my fault when something goes wrong	.36
59	My family is disappointed in me	.35 (VI)
32	I pick on my brother(s) and sister(s)	.31
4	I am often sad	.30

Factor II

Intellectual and School Status

21	I am good in my schoolwork.	-.66
5	I am smart	-.63
53	I am dumb about most things	.56
70	I am a good reader	-.55
66	I forget what I learn	.53
26	I am slow in finishing my schoolwork	.51
30	I can give a good report in front of the class	-.48
42	I often volunteer in school	-.46
11	I am unpopular	.43 (V)

*Parentheses indicate that item loads on one or more other factors.

<u>No.</u>	<u>Item</u>	<u>Loading*</u>
49	My classmates in school think I have good ideas	-.43 (III) (V)
16	I have good ideas	-.40
7	I get nervous when the teacher calls on me	.39 (IV)
27	I am an important member of my class	-.39 (III)
33	My friends like my ideas	-.38 (V)
17	I am an important member of my family	-.32
9	When I grow up I will be an important person	-.31
12	I am well behaved in school	-.30 (I)
57	I am popular with boys	-.30 (III) (V)

Factor III

Physical Appearance and Attributes
(related also to status and popularity)

54	I am good looking	-.74
60	I have a pleasant face	-.61
41	I have nice hair	-.60
73	I have a good figure	-.56
29	I have pretty eyes	-.52
15	I am strong	-.41
63	I am a leader in games and sports	-.40
8	My looks bother me	.40 (IV) (VI)
27	I am an important member of my class	-.36 (II)
49	My classmates in school think I have good ideas	-.35 (II) (V)
55	I have lots of pep	-.31 (IV)
57	I am popular with boys	-.33 (II) (V)

Factor IV

Anxiety

79	I cry easily	-.57
37	I worry a lot	-.57
74	I am often afraid	-.55
7	I get nervous when the teacher calls on me	-.54
A	Male sex	.51
28	I am nervous	-.49
10	I get worried when we have tests in school	-.47
40	I feel left out of things	-.38 (V)
6	I am shy	-.35
8	My looks bother me	-.33 (III) (VI)

*Parentheses indicate that item loads on one or more other factors.

<u>No.</u>	<u>Item</u>	<u>Loading*</u>
20	I give up easily	-.33
44	I sleep well at night	.30
55	I have lots of pep	.30 (III)

Factor V
Popularity

58	People pick on me	-.62
46	I am among the last to be chosen for games	-.61
3	It is hard for me to make friends	-.55
51	I have many friends	.56
40	I feel left out of things	-.49 (IV)
11	I am unpopular	-.47 (II)
1	My classmates make fun of me	-.40
49	My classmates in school think I have good ideas	.40
33	My friends like my ideas	.37 (II)
77	I am different from other people	-.35
57	I am popular with boys	.34 (II)
69	I am popular with girls	.32

Factor VI
Happiness and Satisfaction

2	I am a happy person	.65
50	I am unhappy	-.62
39	I like being the way I am	.60
43	I wish I were different	-.57
52	I am cheerful	.42
59	My family is disappointed in me	-.39 (I)
8	My looks bother me	-.35 (III) (IV)
38	My parents expect too much of me	-.33
36	I am lucky	.30

*Parentheses indicate that item loads on one or more other factors.

APPENDIX F

FACTORIAL SCALES OF THE TEACHER
RATING SCALE

TEACHER RATING SCALE

(For student evaluation of teacher)

Scoring Instructions

Oblique Factor
Coefficient

Item Numbers Factors and Items

Orig. Rev.
71 72

RESPECT/ENTHUSIASM (INTEREST)

57	1	Her (his) class is more enjoyable than most classes.	.7858
68	2	Is better liked by the students than most teachers.	.6846
69	8	Is highly respected as a teacher by most students.	.6907
35	9	Treats students fairly.	.6408
25	17	Most students seem to think about ideas more in her (his) class than in most classes.	.6759
12	18	Treats the students with a great deal of personal respect.	.6272
13	22	Is warm and friendly to the students both inside and outside of class.	.6357
83	23	Students in this class seem to work more because they are really interested than just to get a grade or please the teacher.	.6184
27	24	Generally, most students learn more about important things in her (his) class than in most classes.	.5947
32	31	Is imaginative and creative in the ways she (he) teaches.	.6165

Item Numbers Factors and Items

Orig. Rev.
71 72

76	32	Generally, the class is eager to cooperate with her (him).	.6094
56	33	Gives the students more freedom in class than most teachers.	.5617
33	39	Knows her (his) subject and succeeds in presenting it clearly.	.5853
84	42	Most of our time in this class is spent very profitably.	.5435
72	47	Most students follow her (his) rules more because they want to and the rules are reasonable than because they are afraid not to.	.5120
22	50	Is relaxed and casual during class.	.4814
53	53	When a student makes a mistake or misbehaves, she (he) usually tries to explain to the student what the mistake or misbehavior was rather than criticizing the student or trying to make him feel bad.	.4871

DEFENSIVE/DESTRUCTIVE

17	3	Acts as if she (he) is better than the students.	.7867
39	6	Is more interested in acting like a big shot than getting students to learn.	.6818
46	10	Criticizes students severely for minor things.	.6256
18	14	Tries to give the impression she (he) knows a lot more than she (he) actually does.	.7190
16	26	Tries to embarrass students who disagree with her (him).	.6761
15	25	Is cold and unfriendly both inside and outside of class.	.5657
44	34	When offering criticism, is more likely to criticize the students personally than their ideas.	.5833

Factors and Items

Item Number

Orig. Rev.
71 72

21	40	Expects the students to learn a bunch of facts without trying to make clear why the facts are important.	.5637
38	41	Gets angry when a student tries to correct something she (he) says.	.6184
29	43	Tries to be a good teacher.	-.5464
9	48	Wants the students to learn for their own good and not because it will make her (him) look good to the principal.	-.30
66	49	Uses sarcasm a lot toward students when they displease her (him).	.5394
3	51	Doesn't seem to care whether or not the students understand what is being taught.	.30

DICTATORIALNESS

62	4	Acts like a dictator in class.	.6682
77	5	Students are more likely to do the assignments she (he) makes out of fear, than out of curiosity or interest in learning.	.6007
63	11	Gets upset if students don't do exactly as she (he) says.	.6650
37	15	Tries to make students follow rules simply because she (he) says so instead of explaining why the rules are important.	.5958
74	19	Students behave in class more out of fear than respect for her (him).	.5859
41	27	Is patient with students.	-.5621
51	37	Generally criticizes the students when they do something she dislikes but rarely praises them for anything.	.5601

Item Number Factor and Items

Orig. Rev.
71 72

60 38 Decides everything that happens in class, even little things. .5358
36 46 Has a lot of rules in class that don't make sense. .5405

FOSTERING INDEPENDENCE

79 7 The class feels free to offer suggestions to her (him) on what they would like to do in class. .6965
6 12 Gets the students to feel free to ask questions about things in class they don't understand .6185
10 13 Seriously considers ideas expressed by the students. .6094
82 16 Students are freer in this class than most others to express their true feelings on any topic. .6146
31 20 Succeeds in making difficult problems or issues clear and understandable. .5737
23 21 Where possible, lets students do things their own way. .5420
4 28 Helps the student express his or her ideas in their own words. .5967
8 29 Is genuinely concerned about the students' interests and welfare. .5819
80 30 If she (he) requires the students to do something which they feel doesn't make sense, they feel free to tell her (him). .5660
54 35 Is more interested in the students understanding an idea or principle than just memorizing something and giving it back as the right answer.
11 36 Is willing to change her (his) mind as the result of an idea or argument expressed by a student. .5334
.5206

Factor and Items

Item Number

Orig. Rev.
71 72

28	44	Tries to make sure more than one point of view is pre- sented when she (he) is discussing a problem or an idea.	.5301
26	45	Trusts the students to be honest.	.5195
20	52	Is interested in the students learning to be independent and think for themselves.	.42
88	54	Students in this class seem more likely to discuss ideas among themselves than in most classes.	.40

APPENDIX G

FACTORIAL SCALES OF THE STUDENT
SELF-IMAGE SCALE

STUDENT SELF-IMAGE SCALE

<u>Item No.</u>	<u>Item</u>	<u>Oblique Factor Coefficient</u>	
		<u>Original</u>	<u>Revised</u> <u>July 1972</u>
<u>Factor I: Sociability</u>			
21	I like almost everybody in my class.	.61	.39
24	Most children are fun to play with.	.55	.40
13	I like to work with other children.	.50	.52
10	I get along with the other children in my class.	.43	.46
11	I like to have a lot of friends.	.51	.45
19	I get along well with my teachers.	.34	.23
12	I feel bad when other children get mad at me.	.27	.23
16	If I could I'd fight with lots of people	-.26	-.26
<u>Factor II: Independence</u>			
8	When the class is noisy it bothers me.	-.51	-.44
18	Other children can hang around when I'm working.	.45	.30
17	I get worried when I'm not sure what's going on.	-.40	-.48
12	I feel bad when other children get mad at me.	-.31	-.49
14	I like to be told exactly what to do.	-.25	-.25
<u>Factor III: Hostility</u>			
22	I'd like to fight anyone who pushes me around.	.62	.49

Item No.

Item

Oblique Factor Coefficient

Original Revised
July 1972

16

If I could I'd fight with lots of people.

.52

.55

9

Sometimes I get mad at my teacher.

.35

.22

20

I like it when I can do things my own way.

.3

.23

19

I get along well with my teachers.

-.27

-.45

12

I feel bad when other children get mad at me.

-.27

-.45

Factor IV: Achievement Orientation

23

I like to work by myself.

.42

.28

8

When the class is noisy it bothers me.

.41

.56

9

Sometimes I get mad at my teacher.

-.35

-.25

19

I get along well with my teachers.

.26

.37

14

I like to be told exactly what to do.

.24

.17

18

It's O.K. if other children talk to me or hang around when I am working.

-.46

APPENDIX H

FLORIDA CLIMATE AND CONTROL SYSTEM

FLORIDA CLIMATE AND CONTROL SYSTEM

C	Tot	1	2	3	TEACHER	C	Tot	1	2	3	PUPIL
10					Teacher Central	10					Pupil Central
11					Leads singing, games, stories	11					Pupil -- no choice
12					Moves freely among pupils	12					Pupil -- limited choice
13					Withdraws from class	13					Pupil -- free choice
14					Uses blackboard, A-V Equip.	14					Pupil (Seat work w/o teacher)
15					Ignores, refuses to attend P.	15					(Seat work with teacher)
16					Attends P. briefly	16					(Works, plays w. much supv.)
17					Attends P. closely	17					(Works, plays w. little supv.)
18					Attends P. in succession	18					(Resists, disobeys directions)
19					Attends simultaneous activ.	19					(Obeys directions)
					VERBAL CONTROL	20					Asks permission
20					Praises	21					Follows routine w/o reminder
21					Asks for status	22					Reports rule to another
22					Suggests, guides	23					Tattles
23					Feedback, cites reason	24					Gives information
24					Questions for reftive, thot.	25					Gives direction
25					Correct w/o criticism (SM)	26					Gives reason
26					Questions for control	27					Speaks aloud w/o permission
27					Questions states beh. rule	28					Engages in out-of-bounds beh.
28					Directs with reason	29					Collaborates w. teacher
29					Directs w/o reason	30					Task related movement
30					Uses time pressure	31					Aimless wandering
31					Call child by name (EWS)	32					Fantasy
32					Interrupts Pupil, cuts off	33					Uses play object as itself
33					Warns	34					Parallel play or work
						35					Works, plays collaboratively

TEACHER					PUPIL				
C	Tot	1	2	3	C	Tot	1	2	3
34					36				
35					37				
36					38				
37					39				
38					40				
39									
NONVERBAL CONTROL					WORK GROUPS				
40					41				
41					42				
42					43				
43					44				
44									
45					SOCIALIZATION				
46									
47					45				
48					46				
49					47				
50									
51					MATERIALS				
52					48				
					49				
					PUPIL INTEREST ATTENTION				
					50-51				
					(Rank 1 low to 6 high)				

NEGATIVE AFFECT

Teacher						
C	Tot	1	2	3	Verbal	
					C	Tot
Nonverbal	C	Tot	1	2	3	Nonverbal
10	Says "stop it," etc.	10	Waits for child			
11	Uses threatening tone	11	Frowns			
12	Rejects child	12	Points, shakes finger			
13	Criticizes, blames	13	Pushes or pulls, holds			
14	Warns	14	Shows disgust			
15	Yells	15	Takes material			
16	Scolds, humiliates	16	Refuses to respond to child			
17	Other	17	Other			
18	Code Involvement					

Pupil				
C	Tot	1	2	3
19		Says "No," "I won't," etc.	18	Makes face, frowns
20		Teases	19	Pouts, withdraws
21		Laughs	20	Uncooperative, resistant
22		Tattles	21	Stamps, throws, slams
23		Commands or demands	22	Interferes, threatens
24		Makes disparaging	23	Takes, damages property
25		Demands attention	24	Picks at child
26		Makes someone feel small	25	Pushes or pulls, holds
27		Finds fault	26	Hits, hurts
28		Threatens	27	Is left out
29		Other	28	Other
30		Code Involvement		

POSITIVE AFFECT

Teacher			
C	Tot	1 2 3	Verbal
C	Tot	1 2 3	Nonverbal
31	29		Accepts favors for self
32	30		Waits for child
33	31		Gives individual attention
34	32		Warm, congenial
35	33		Listens carefully to child
36	34		Smiles, laughs, nods
37	35		Pats, hugs, etc.
38	36		Sympathetic
39	37		Other
40			Code Involvement

Pupil			
C	Tot	1 2 3	Verbal
C	Tot	1 2 3	Nonverbal
41	38		Helpful, shares
42	39		Leans close to another
43	40		Chooses another
44	41		Smiles, laughs with another
45	42		Pats, hugs another
46	43		Agreeable, cooperative
47	44		Enthusiastic
48	45		Horseplay
49	46		Other
50			Code Involvement
51			CODE INVOLVEMENT

0. None involved
1. Few involved
2. Up to $\frac{1}{2}$ the class
3. More than half

APPENDIX I

ACCURACY SCORES

ACCURACY SCORES

Cronbach (1955) describes the rationale and the formula's for the use of accuracy scores. The notation for the formula's used in the examples in this paper are specific to the problem discussed here, rather than in Cronbach:

The accuracy with which a pupil perceives the teacher is defined by:

$$ACC_j^2 = 1/kn \sum_i (Y_{pi} - X_{ti})^2$$

ACC^2 = Accuracy

Y_{pi} = Pupil's ratings on item i

X_{ti} = Pupil's mean ratings on item i

Accuracy is defined by the sum of the square deviations of each teacher's rating on item i from each pupil's mean rating on item i through subscales s .

Example:	Pupil's mean rating		Pupil rating	
	Item 1	6	i_1	6
<u>Scale 1</u>	Item 2	5	i_2	4
	Item 3	4	i_3	4

$$(6 - 6)^2 + (5 - 4)^2 + (4 - 4)^2 = 1$$

1 is the accuracy score on scale 1 where

Elevation denotes whether the pupil (p) interprets the words defining the scale in the same manner as the average pupil does.

$$(E)^2 = \frac{1}{n} (\bar{Y}_{..} - \bar{X}_{..})^2 \text{ where}$$

$\bar{Y}_{..}$ is the grand mean on the pupils ratings over subscales

$\bar{X}..$ is the grand mean on the teacher ratings over subscales

Differential Elevation (DE) reflects how closely the pupils average prediction of the teacher corresponds to the class central tendency of responses.

$$(DE)^2 = \frac{1}{k} \sum (\bar{Y}.p - \bar{Y}..) - (\bar{X}.t - \bar{X}..) \sum^2$$

$\bar{Y}.p$ is the mean of pupil ratings over items

$\bar{Y}..$ is grand mean

$\bar{X}.t$ is mean of teacher ratings over items

$\bar{X}..$ is the grand mean

Stereotypic Accuracy represents the ability of the pupil to rate the teacher in the same profile as the average pupil does.

$$(SA)^2 = \sum (\bar{Y}i. - \bar{Y}..) - (\bar{X}i. - \bar{X}..) \sum^2$$

$\bar{Y}i.$ is mean of items over pupils

$\bar{Y}..$ is grand mean

$\bar{X}i.$ is mean of items over teachers

$\bar{X}..$ is grand mean

Differential Accuracy is the ability of the pupil to predict differences between the subscales.

$$(DA)^2 = (Yip^1 - Xip^1)^2$$

where :

Yip^1 is $Yip - \bar{Y}.p - \bar{Y}i. + \bar{Y}..$

Xip^1 is $Xit - \bar{X}.t - \bar{X}i + \bar{X}..$

The Present Study

The rationale for breaking up the sources of variation for accuracy scores will be similar to Cronbach's; however, the components will differ.

$$\begin{aligned}
 \text{Accuracy} &= \frac{1}{kn} \sum_{i=1}^n \sum_{j=1}^k (Y_{ij} - X_{ij})^2 \\
 (Y_{ij} - X_{ij})^2 &= \sum_{i=1}^n \sum_{j=1}^k (\bar{Y}_{..} - \bar{X}_{..})^2 / kn \\
 &+ \sum_{j=1}^k \sum_{i=1}^n (\bar{Y}_{.j} - \bar{Y}_{..}) - (\bar{X}_{.j} - \bar{X}_{..})^2 / k \\
 &+ \sum_{i=1}^n \sum_{j=1}^k (\bar{Y}_{ij} - \bar{Y}_{.j}) - (X_{ij} - \bar{X}_{.j})^2 / n
 \end{aligned}$$

where

$$\begin{aligned}
 \sum_{i=1}^n \sum_{j=1}^k (\bar{Y}_{..} - \bar{X}_{..})^2 / kn &= \text{elevation} \\
 \sum_{j=1}^k \sum_{i=1}^n (\bar{Y}_{.j} - \bar{Y}_{..}) - (\bar{X}_{.j} - \bar{X}_{..})^2 / k &= \text{differential elevation} \\
 \sum_{i=1}^n \sum_{j=1}^k (\bar{Y}_{ij} - \bar{Y}_{.j})^2 - (X_{ij} - \bar{X}_{.j})^2 / n &= \text{consistency}
 \end{aligned}$$

Example 1

This example illustrates a perfect match between the ratings that a pupil gives and the average pupil gives.

	Mean Pupil Rating	Pupil Rating
item 11	1	1
item 12	2	2
item 13	3	3
item 21	4	4
item 22	3	3
item 23	2	2

Accuracy score is

$$\begin{aligned}
 &(1 - 1)^2 + (2 - 2)^2 + (3 - 3)^2 + (4 - 4)^2 \\
 &+ (3 - 3)^2 + (2 - 2)^2 = 0
 \end{aligned}$$

Elevation is

$$(1 + 2 + 3 + 4 + 3 + 2)/6 = 2.5$$

$$(1 + 2 + 3 + 4 + 3 + 2)/6 = 2.5$$

$$(2.5 - 2.5) = 0$$

DE and C = 0 also

Example 2

This example illustrates a complete mismatch between the ratings the pupils gives to the teacher and the ratings the average pupils gives to her.

	Teacher Self Rating	Pupil Rating
item 11	1	5
item 12	1	5
item 13	1	5
item 21	2	5
item 22	2	5
item 23	2	5

Accuracy score is

$$(1 - 5)^2 + (1 - 5)^2 + (1 - 5)^2 + (2 - 5)^2 + (2 - 5)^2 + (2 - 5)^2 = 75/12 \text{ or } 6.25$$

Elevation is

$$(1 + 1 + 1 + 2 + 2 + 2)/6 = 1.5$$

$$(5 + 5 + 5 + 5 + 5 + 5)/6 = 5$$

$$(5 - 1.5)^2/2 = 12.25/2 \text{ or } 6.125$$

Differential Elevation is

$$(5 - 5)^2 + (5 - 5)^2 - (1 - 1.5)^2 (2 - 1.5)^2 = .50/4 \text{ or } .125$$

Consistency is

$$\begin{aligned} & (1-1)^2 + (1-1)^2 + (1-1)^2 + (2-2)^2 + (2-2)^2 \\ & + (2-2)^2 + (2-2)^2 = (5-5)^2 + (5-5)^2 + (5-5)^2 \\ & + (5-5)^2 + (5-5)^2 + (5-5)^2 = 0 \end{aligned}$$

Check

$$6.25 = 6.125 + .125 + 0$$

A. $\angle((14 + 4 + 3)/3 - 21/9) - \angle 1 + 1 + 1 - 3/3 \angle \angle$

$$(7 - 2.3) - 3 - 1$$

$$(4.7 - 2)^2 = 7.29$$

B. $\angle((5 + 7 + 9)/3 - 21/9) - \angle 2 + 3 + 4 - 9/3 \angle^2$

$$(7 - 2.3) - (9 - 3)$$

$$(4.7 - 6)^2 = 1.69$$

Profile Accuracy

This example illustrates the match between the teacher's self rating and the mean ratings of the class.

	Teacher Self Rating	Pupils Ratings		
A.	Item 11	2	2	2
	Item 12	3	3	3
	Item 13	4	4	4
B.	Item 21	1	1	1
	Item 22	2	2	2
	Item 23	1	1	1
A.	$\left[\frac{(6 + 9 + 12)}{3} - 27/9 \right] - \left[\frac{2 + 3 + 4}{1} - 9/3 \right]$ $\left[\begin{array}{c} \text{mean of pupil items} \\ \text{Scale 2} \end{array} - \text{grand mean} \right] - \left[\begin{array}{c} \text{mean of} \\ \text{teacher} \\ \text{items} \end{array} - \text{grand mean} \right]$			
	$\left[9 - 3 \right] - \left[9 - 3 \right]$ $\left[6 - 6 \right]^2 = 0$			
B.	$\left[\frac{(3 + 6 + 3)}{3} - 12/9 \right] - \left[\frac{(1 + 2 + 1)}{1} - 4/3 \right]$ $\left[12/3 - 12/9 \right] - \left[4 - 4/3 \right]$ $\left[2^{2/3} - 2^{2/3} \right]^2 = 0$			

This example illustrates a mismatch between pupil's mean rating and each pupil rating.

	Teacher Self Rating	P ₁	P ₂	P ₃
A.	Item 11	1	4	3
	Item 12	1	1	2
	Item 13	1	1	1
B.	Item 21	2	1	2
	Item 22	3	1	3
	Item 23	4	1	4

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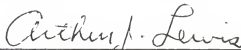
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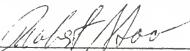
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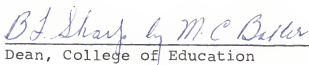
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